

The background of the cover is a photograph of a yellow CAT excavator working on a river. The excavator is positioned on a barge or temporary structure, dumping a load of rocks into the water. The water is calm, reflecting the sky and the excavator. In the foreground, there are tall, thin reeds or grasses. The title 'DWR' is overlaid in large, semi-transparent letters at the top, and 'ROCK out' is overlaid in large, bold letters in the center. A text box in the bottom right corner contains the headline.

FALL 2015

a magazine  
from the  
California  
Department  
of Water  
Resources

# ROCK out

**Flow restored at  
West False River  
Temporary Barrier**

# In Memoriam

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**Laura King Moon**, DWR's Chief Deputy Director who dedicated 38 years to resource and water policy, passed away October 27 after a courageous battle with cancer.

"While Laura was only with the Department for a small part of her extensive career in resources management, all who worked with her will remember her as an energetic, enthusiastic and staunch supporter of the Department's mission," said Director Mark Cowin. "She was always willing to listen and to provide wise counsel. I will remember her for and miss her support, her encouragement and her friendship."

Appointed by Governor Edmund G. Brown Jr. to the Chief Deputy Director post in 2013, Laura's experience with complex water and environmental issues and her relationships with key

stakeholders helped her manage the environmental review process to modernize the Delta water system.

Laura began her resources policy career with the Natural Resources Defense Council (NRDC) in San Francisco as a Senior Staff Scientist in 1977. She presented expert testimony for NRDC to State agencies, the State Legislature and Congress. She also established and ran an NRDC office in Honolulu.

In 1994, Laura became Environmental Affairs Officer for East Bay Municipal Utility District. She moved two years later to the Bureau of Reclamation as Special Assistant to the Regional Director. She later served as Director of Strategic Planning at the San Luis and Delta-Mendota Water Authority. Her last position before joining DWR was Assistant General Manager for the State Water Contractors for 10 years.

Laura's early childhood was spent in Wiesbaden, Germany, where her father served in

the U.S. Army. Laura was part of a family that grew to nine brothers and sisters. She moved with her family to Palo Alto where she graduated from Gunn High School in 1971. Laura then attended the University of California, Berkeley, where she earned a Bachelor of Science degree in Conservation of Natural Resources and a Master of Science degree in Energy and Resources.

Laura enjoyed hikes with her husband of 16 years, retired high school teacher Greg Moon of Woodland. She also loved to garden, read books and cheer for the San Francisco Giants. Her daughter, Meg Waltner of San Francisco, is following in her footsteps as an energy policy manager at NRDC. In addition to her husband and daughter, Laura is survived by her step-children, Brian and Erica Moon, and grandchildren, John and Anthony, children of Erica.

She will be greatly missed.



# What's INSIDE



On the Cover:  
The Emergency Drought Barrier that was installed in June 2015 undergoes dismantling in October. The approximately 750-foot rock barrier spanning West False River between Jersey and Bradford Islands was constructed to block salt water from entering the central Sacramento-San Joaquin Delta from the San Francisco Bay.

Photo above:  
DWR employees at hands-on water conservation exhibit at the 2015 California State Fair demonstrate how to maintain drought-tolerant plants.

*Water-Saving Showcases at the Fair... see page 36*

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## State Fair Exhibit Keeps Focus on Water Conservation

Use low-flow showerheads. Stop leaks. Turn off faucet when brushing teeth. Californians have been reminded about these water conservation messages for several decades.

Viewed at the California State Fair, DWR's water conservation exhibit dating back to the 1970s highlights the importance of making water conservation a way of life. Although the devices have improved in the last four decades, the methods of saving water inside of the home continue to focus on similar appliances, like toilets, faucets, showerheads and washing machines.

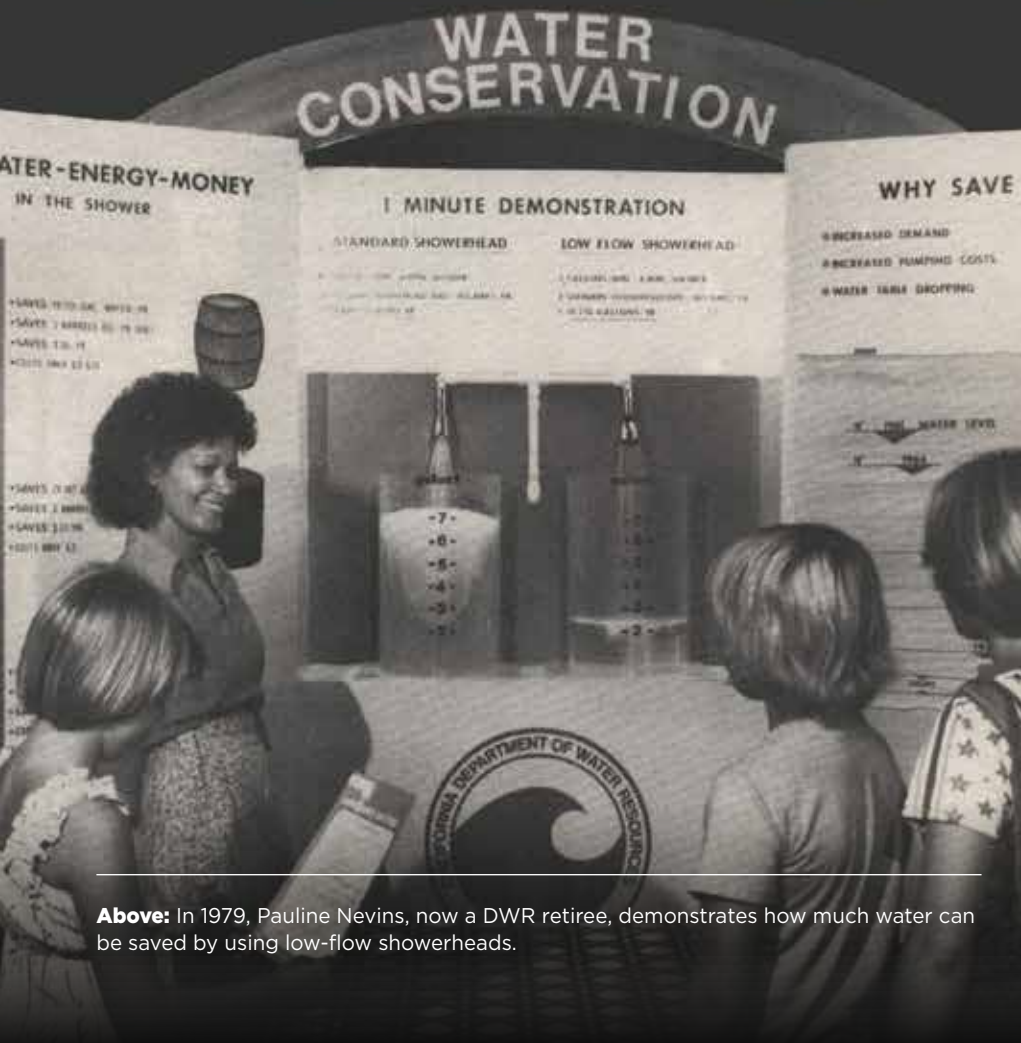
See State Fair article on page 36.



# DWR NEWS

AUGUST

1979



**Above:** In 1979, Pauline Nevins, now a DWR retiree, demonstrates how much water can be saved by using low-flow showerheads.



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# Our Common Goal



**DWR is charged** with “managing and protecting California’s water” and to “work with other agencies to benefit the state’s people, and protect, restore, and enhance natural and human environments.” These words may have slightly different implications for each of us, but in the end, our common goal is to make our state a better place, where all species, human, aquatic, terrestrial, and avian can thrive. The accomplishment of this common goal is not without extreme, ever increasing challenges. We are working together to manage what could be a fifth year of severe drought. While the forecasts of El Niño bring some cautious optimism for Water Year 2016, we must still prepare for whatever nature may send our way as we address endangered species, groundwater management, water supply, public safety—this list can seem daunting.

We all are very proud to work for DWR. You are internationally recognized as having the highest level of expertise in a very broad

number of skillsets. The successes that you have had are many. With these successes, however, come heightened expectations that whatever new challenges may arise, “DWR can do it.” Reflecting on many years of service with DWR, it is very evident that the “can do” culture is something that will continue to motivate us to meet these challenges.

There is one overriding issue that is the essential factor for success and cannot be the “elephant in the room”—adequate resources. How do we ensure that we have and can maintain the skilled people and tools needed? There are actions that can be taken, and we have taken some steps, within our operating guidelines, to create and implement succession planning. However, we still must look for creative ways to pass on and somehow memorialize our vast store of institutional knowledge. The fundamental tool that we all can leverage to success is teamwork.

The word “teamwork” may at times seem oversimplified and even hackneyed. However, the full meaning of teamwork revolves around sharing our individual skills and knowledge to achieve our common goal. While we all “fit” in an organizational box, we must continue to step out of these boxes to fully realize sustained accomplishment. We should all recognize the diverse and unique expertise that we can bring to each assignment and embrace that fact in carrying out our mission.

I would personally like to thank each and every one of you for the extraordinary contributions you have and will continue to make to the people of the State of California.

—Carl Torgersen  
Deputy Director



## Restoring the

By Doug Carlson

# FLOW

A Job Well Done as Emergency  
Drought Barrier is Removed from the Delta

The dismantling  
of the rock barrier  
containing about

**150,000  
tons**

of large rock  
was completed  
in November





Most Californians undoubtedly haven't a clue about the circus-quality juggling act DWR performs behind the scenes, especially during a drought.

Think of the variables that need juggling. The biggest, obviously, is rainfall, which has varied far below normal since 2011. The relative lack of rain has been the defining marker of California's four-year drought.

Then there's snowpack, which was virtually non-existent last winter thanks to the temperature variable. Scant precipitation and warmer-than-normal temperatures resulted in virtually no accumulated snowpack to melt and replenish reservoirs as runoff from the Sierra Nevada.

Governor Edmund G. Brown Jr. could not have picked a more dramatic setting to deliver his April 1 Executive Order mandating a statewide

(continued)





25-percent reduction in water use in 2015 compared to two years earlier. He stood on bare ground at the Phillips snow course in the mountains east of Sacramento where the average snow depth since 1941 on that date was 66 inches.

Other variables include the amount of water stored in California's major reservoirs, the rate of the storage decline during the summer, the timing of fish species migration in rivers and streams, the rate of agricultural and urban water use, the operations of the U.S. Bureau of Reclamation and many more. El Niño, anyone?

But there's one overriding constant in all this variability, and that's the absolutely essential requirement to maintain good water quality in the Sacramento-San Joaquin Delta.

About 25 million Californians and millions of agricultural acres depend on water that flows through the Delta, including far-flung communities from the Bay Area to San Diego and hundreds in-between.

And here's another constant—Mother Nature's twice-daily push of high-salinity tides eastward from San Francisco Bay toward the Delta.

It doesn't take an environmental scientist to recognize the conflict between these two constants.

DWR has been juggling all these issues and more throughout the drought. One of the tools it had considered using in 2014 and finally implemented this year was the installation of an emergency drought barrier in the Delta's West False River.

The approximately 750-foot-long pile of riprap spanned West False River between Jersey and Bradford islands near the river's confluence with the San Joaquin River. Installation was completed in early June, and





**100–300  
microsiemens  
per centimeter**

was how much  
salinity reduced at  
Franks Tract.

*in preliminary  
analysis*



**(Top to Bottom)** To maintain water quality in the Sacramento-San Joaquin Delta during the fourth year of drought, the barrier was installed in June 2015. **(right)** Bay-Delta Office Chief Paul Marshall and Deputy Director Bill Croyle explain barrier removal project.

**(Page 8-9)** The removal of the approximately 750-foot rock barrier spanning West False River between Jersey and Bradford Islands began in September.

the barrier was scheduled for removal by mid-November.

After several weeks of observation, the logical inquiry to DWR's Bay-Delta Office was whether the barrier had achieved its goal of protecting the central Delta's water quality.

According to Office Chief Paul Marshall, it did. "The barrier is performing like what we expected from our modeling," he said in July. "The water users in the interior of the Delta, including many farmers and residents there, would be experiencing much higher salinity without it. The barrier has achieved what we intended, and having it

go in by early June was very advantageous because of the high tides we experienced later that month."

Mark Holderman is the barrier's program manager, a position he's held for other barrier installations going back to the 1990s.

"Had it gone in later, a lot of that salt could have migrated into the central Delta," Holderman said, "and putting in the barrier later would have missed the opportunity to block it. We always wanted to close it as early as we could, and the actual installation was completed ahead of schedule."

Early planning for a dry Water Year

2015 had included two more barriers, on Steamboat and Miner sloughs just downstream from the Sacramento River near Courtland. That didn't happen due to concerns about possible impacts on Delta smelt, a species whose declining vitality is another of those variables.

The barrier was taken out in time for the hoped-for rainy season this winter. Will El Niño live up to the hype and deliver prodigious rainfall? That's another big variable, and only Mother Nature knows. Either way, the emergency drought barrier will have done its job during a hot and dry summer. 💧



By Jennifer Iida

# California Saves Water

# W

*Water Year 2015 has arrived during one of the driest periods in California's history, and with that arrival comes a heightened level of concern and a call for improved conservation in our daily routines.*

*The drought emergency proclamation by Governor Edmund G. Brown Jr. was issued nearly two years ago, and the emergency has only become more severe since then.*

*The Governor's most recent drought Executive Order of April 1 required for the first time in state history mandatory water restrictions calling for a 25 percent reduction in water use in cities and towns across the state as the drought impacts continued to mount.*

*Governor Brown's directives require Californians to save water, increase their enforcement against wasteful use, streamline the state's drought response and invest in innovative technology over the long term to build drought resilience.*





## Statewide rebates status as of November 12:

Toilet rebates  
continue to average

**1,000**  
A WEEK

with about \$1.2 million spent out of  
the \$5 million allocation.

Out of the \$22 million allocated for  
the turf replacement rebates,

**\$6.3**  
MILLION

has been paid or reserved, with about  
4,700 applications still pending.

Rebates Help Reduce Water for Turf and Toilets

### Statewide Rebate Programs

**DWR launched** two new statewide rebate programs on August 12. The residential water efficiency rebate programs for turf removal and toilet replacement aim to change out more than 10 million square feet of lawn and more than 60,000 water-wasting toilets.

“These Executive Orders ignited a flurry of activity within our branch to create and expedite the rollout of these rebate programs to help curb water and energy use during the historic drought,” said Kent Frame, Program Manager in DWR’s Division of Statewide Integrated Water Management’s Water Use and Efficiency Branch.

A \$24 million budget for the turf replacement program provides up to \$2 per square foot of removed and replaced turf, with a cap of \$2,000 (1,000 square feet) per household.

In addition, \$6 million is available to provide a \$100 rebate for the purchase and installation of one qualified high-efficiency toilet (1.28 gallons per flush or less) per household when replacing a less efficient toilet using more than 1.6 gallons per flush.

Stickers and outreach materials were placed at cooperating retail stores promoting the \$100 rebates for appliance upgrades. The rebate programs are financed by the Proposition 1 water bond and are available statewide until funds are depleted.

The Commercial, Institutional and Industrial Turf Program seeks to achieve cuts in outdoor water use in the San Joaquin Valley by targeting institutional landscapes, such as government buildings, school campuses, cemeteries and public landscapes. The program is being conducted in partnership with the California Conservation Corps.



.....  
Guiding California to  
Be Water Wise

## Drought-Tolerant Landscapes

**In addition** to these programs, a state-wide campaign was launched to promote drought-tolerant landscapes through institutional change.

About half of California's urban water is used for landscape irrigation. Significant water savings can be gained if landscapes are designed with that goal in mind. Toward that end, DWR updated the Statewide Model Landscape Ordinance, which promotes efficient landscapes in new developments and retrofitted landscapes. The California Water Commission voted to adopt the

revised ordinance on July 15, 2015.

"The revised ordinance limits the area that can be planted to turf and other high water use plants which is critical with urban growth and limited water supplies," said Peter Brostrom, Chief of the Water Use Efficiency Unit. "The revised ordinance also requires annual reporting on implementation by local agencies which improves its effectiveness."

Water use on new commercial landscapes is expected to be cut by approximately 35 percent, and landscapes at new homes built to the ordinance's specifications could reduce water use up to 20 percent.

Major changes from the previous model ordinance include a reduction in square footage above which landscape projects are subject to the ordinance, from 2,500 square feet to 500 square feet for new

residential, commercial, industrial and institutional projects.

This ordinance also prohibits turf in non-residential areas between curbs and sidewalks that are less than 10 feet wide. Compliance with guidelines for the use of automatic sprinklers using more efficient systems such as drip and low spray irrigation is also included in the new ordinance.

To encourage the reuse of "graywater" from bathroom sinks, tubs and washing machines, the model ordinance exempts from its provisions landscapes under 2,500 square feet that are irrigated only with graywater or captured rainwater. These areas would have to meet a simple irrigation checklist and are not subject to the entire ordinance. The revised model ordinance also includes improvements in onsite storm water capture.

Drought-tolerant landscape.

.....







Water efficient sprinklers watering a lawn.

Local cities and counties can adopt the state's ordinance or adopt their own ordinance, but the local provisions have to be at least as effective as the state's. The state's ordinance becomes the default for cities and counties that fail to take action. Land-Use agencies also are required to report ordinance adoption and enforcement to DWR each year.

For more information about the model ordinance, visit <http://www.water.ca.gov/wateruseefficiency/landscapeordinance/>

Water Conservation Increases

## Managing Precious Water Resources

Since water years 2014 and 2015 experienced record warm temperatures that severely affected California's snowpack, DWR is preparing for the possibility of another dry year because scientists say we can expect extended dry conditions due to climate change. As a result of mandated water conservation, urban water agencies water use reporting to the State Water Resources Control Board revealed that Californians are reducing their water usage more than the 25 percent mandatory reduction.

The hope is to sustain or increase those percentages with the implementation of these long-term initiatives to help California plan for a better future.

Bill Croyle, DWR's Deputy Director for Statewide Emergency Preparedness and Security, said, "DWR has been working around the clock to implement Governor Brown's Executive Orders to manage our precious water resources and ensure the state survives this drought and is better prepared for the next one." 💧

Executive Order B-29-15 can be found here: <http://gov.ca.gov/news.php?id=18913>

### How much was conserved?

**26** PERCENT  
DURING  
SEPTEMBER  
August's  
record effort was 27 percent  
water savings.

**Cumulative savings**  
for the summer, despite hot  
and dry conditions, puts the  
state more than half-way to  
meeting its goal of 1.2 million  
acre-feet of water saved by  
February 2016.

**28.1**  
PERCENT FOR JUNE  
THROUGH SEPTEMBER—  
CUMULATIVE STATEWIDE  
SAVINGS RATE

That equals 777,739 acre-feet  
of water saved — 65 percent  
of the overall goal (1.2 million  
acre-feet) as mandated by  
the Governor.

**For more on the  
Turf initiatives, visit**  
[water.ca.gov/turf/](http://water.ca.gov/turf/)  
to view terms and conditions,  
verify eligibility and to apply  
for the toilet and appliance  
rebates, visit

**Save  
OurWater  
Rebates  
.com**





Due to land subsidence, the bridge deck at Chowchilla's Eastside Bypass was raised. According to a recent NASA report, land in the San Joaquin Valley is sinking faster than before.

*Photo by Integrated Regional Water Management staff.*

# From the Ground Up

## DWR Sustainable Groundwater Management Program Completes First Regulation

By Lauren Bisnett

DWR's leadership role as the key manager of California's water resources grew even greater with the passage of the Sustainable Groundwater Management Act (SGMA) in September 2014.

Achieving sustainable groundwater management is the long-term goal of the legislation. DWR will develop the rules for local agencies to follow (regulations) and provide financial, planning and technical assistance to those same local agencies.

DWR is responsible for drafting two sets of emergency regulations, one for basin boundary revisions and the second for groundwater sustainability plans. DWR is also responsible for updating Bulletin 118's listing for basins in critical overdraft. While planning for the next phase of implementation, DWR began developing enhanced tools and providing facilitation services to local agencies.

Key to achieving groundwater sustainability is collaborating



**Left to Right:** Erin Smith, DWR Engineering Geologist, and William Ehorn, DWR Section Chief with the groundwater and geologic investigations, inspect and measure the groundwater levels in DWR's dedicated observation wells at Gray Lodge Wildlife Area **right** in Gridley.



“ Achieving sustainable groundwater management of California’s water is the long-term goal of the (SGMA) Act. ”

partnerships between the public, agricultural community, local land use authorities, water agencies, tribal governments, environmental organizations and state and federal agencies.

One year into the process, DWR’s team of dedicated professionals can reflect on what has been accomplished and look ahead to sustainable groundwater resources in California.

### **Basin Boundary Modification Regulations**

The Sustainable Groundwater Management Act (SGMA) established a process for local agencies to request DWR’s modification of groundwater basins’ boundaries, including the establishment of new subbasins.

California’s groundwater basins are defined in DWR Bulletin 118. By January 1, DWR was required to adopt emergency regulations to allow local agencies to request changes to basin boundaries. DWR has already completed these regulations which

identify the methodology and criteria that will be applied by DWR when evaluating modification requests.

Local agencies will be required to assess the likelihood that the proposed basin can be sustainably managed, whether the proposed basin would limit sustainable management of adjacent basins and whether there is a history of sustainable management of groundwater levels in the proposed basin.

Local agencies, the public and interested individuals had the opportunity to comment on the draft regulations prior to their adoption. DWR held three public meetings across the state in late August and early September to provide information and solicit feedback from the public. The deadline for comments to be made on the draft emergency regulations was September 4, 2015. The proposed draft regulations were further refined based on public comments and were approved and

adopted by the California Water Commission on October 21, 2015.

### **Groundwater Sustainability Plans Draft Regulations**

By June 1, 2016, DWR is required to adopt emergency regulations for evaluating and implementing Groundwater Sustainability Plans (GSPs) and their numerous complex issues.

DWR divided the issues into 10 topics and established a comprehensive, multi-phased approach to better understand the issues and collect information regarding the development of GSP regulations. Topic discussion papers grouped into three batches were published in August.

From July to September, DWR held a series of informational webcasts for each batch of the GSP topics. DWR will be holding three public meetings in early 2016 to present the draft regulations for comment. Similar to the process for the basin bound-



During one of three public comment meetings on DWR Draft Discussion Papers about future groundwater emergency regulations, Trevor Joseph, DWR's Sustainable Groundwater Management Section Chief, explains public comment process at the August 31 meeting at the California Environmental Protection Agency Headquarters in Sacramento.

any revision draft regulations, local agencies, the public and interested persons will have the opportunity to provide input to DWR during preparation of the GSP draft regulations and before the GSP regulations are finalized and adopted.

### Basins in Conditions of Critical Overdraft

Several factors influence consideration of a basin as being critically overdrafted. They include seawater intrusion, subsidence, reduction of groundwater storage, chronic lowering of groundwater levels, degradation of water quality and depletion of interconnected surface water.

The legislation requires high- and medium-priority basins subject to critical conditions of overdraft to be managed under a GSP by January 31, 2020.

All other groundwater basins prioritized as high or medium basins must be managed under a GSP by January 31, 2022. (The SGMA does not require adjudicated basins to develop GSPs, but they are required to report their water use.)

In August, DWR released the draft list of basins identified as in critical overdraft at a meeting of the California Water Commission.

A public comment period on the updated listing began in late August. After DWR reviews all of the data and comments that were submitted, a final list was to be posted online by late fall, and a final updated list of critically overdrafted basins will be published in the Bulletin 118-Update 2017.

### Groundwater Pumping and Subsidence

The need for long-term groundwater management was also highlighted by a new NASA report released by DWR in August. As Californians continued pumping groundwater in response to the historic drought, the report showed land in the San Joaquin Valley sinking faster than ever before, nearly two inches per month in some locations.

Sinking land, known as subsidence, has occurred for decades in California because of excessive groundwater pumping during drought conditions, but the new NASA data showed the sinking is happening faster, putting infrastructure on the surface at growing risk of damage.

In response to the new findings, and as part of an ongoing effort to respond to the effects of California's historic drought, the Governor's Drought Task Force committed

to working with affected communities to develop recommendations to reduce the rate of sinking and address risks to infrastructure. "Groundwater acts as a savings account to provide supplies during drought, but the NASA report shows the consequences of excessive withdrawals as we head into the fifth year of historic drought," Director Cowin said. "We will work together with counties, local water districts, and affected communities to identify ways to slow the rate of subsidence and protect vital infrastructure such as canals, pumping stations, bridges, and wells."

### On the Horizon

Looking ahead in the movement towards sustainable groundwater management, DWR will be providing financial assistance to local agencies and working with them to utilize new tools we have developed, including:

- New Groundwater Sustainability Agency (GSA) Interactive Map—Information about GSAs, notices received and an interactive map showing the location of local agencies that have elected to be a GSA.
- Updated Groundwater Information Center Interactive Map—GIS interactive





**Left to Right:** The Russell Avenue Bridge, above the Delta Mendota Canal in Firebaugh in Fresno County, has subsided leaving almost no space between the bottom of the bridge decking and the canal water surface (photo taken July 2015). At the Chowchilla Bifurcation Structure, DWR's Alexis Phillips-Dowell and Joshua Bannister collect data in the at-risk areas along the San Joaquin River flood system for DWR to work closely with the local agencies on emergency response planning.

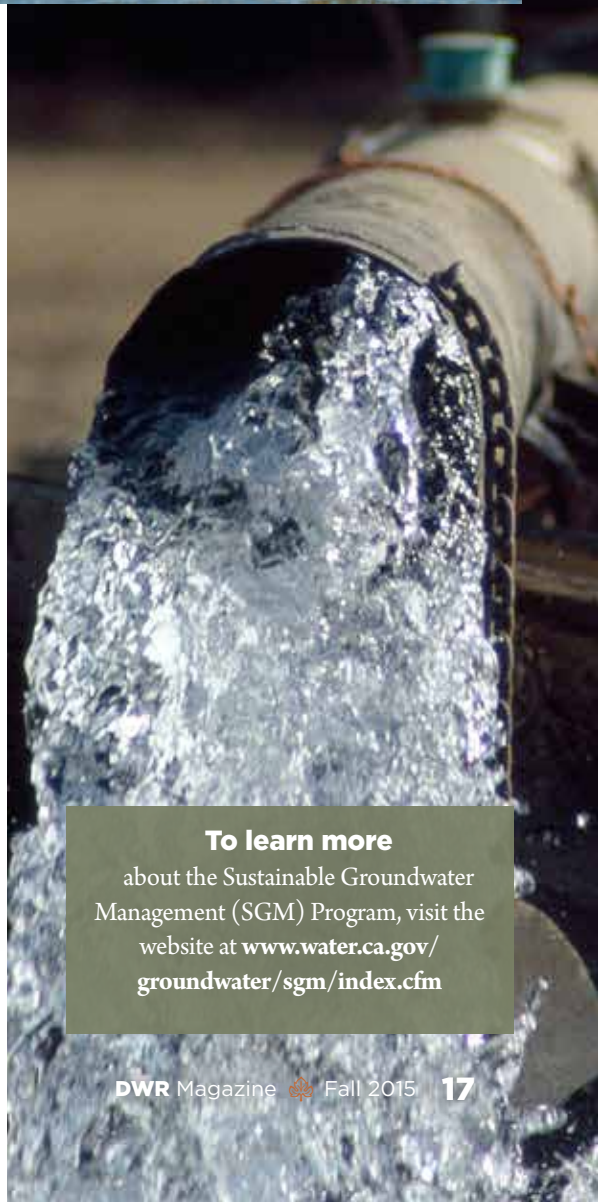
map application for viewing and downloading selected groundwater data. Spring and Summer 2015 groundwater level data are now available, and the updated version also contains a new look and new functionalities.

- New Water Management Planning Tool—Web-based application to assist local agencies in water management planning efforts and responsibilities related to the California Water Action Plan, Integrated Regional Water Management and the SGMA, as well as an informational tool.
- Discussion Paper on Water Available for Groundwater Replenishment—SGMA requires DWR to prepare and publish a report by December 2016 that presents the Department's best estimate of water availability for replenishment of groundwater throughout the state. Information gained through outreach efforts will be used to develop a work-plan to complete the requirement.
- Released new chapters in the 2013 California Groundwater Update—A compilation of enhanced content for California Water Plan Update 2013 compiles and analyzes readily-available groundwater infor-

mation to characterize California's groundwater basins, aquifers and well infrastructure. The update expands and enhances baseline groundwater information on a regional scale, identifies challenges associated with sustainable groundwater management and helps guide implementation of diverse resource management strategies.

Along with crafting a regulatory framework for sustainability, DWR will continue to provide technical and planning tools, address regional issues and provide financial support. Throughout the SGMA planning horizon, DWR will keep the momentum going with outreach and communication, including informational webcasts, public meetings, speaking engagements, stakeholder and partner meetings and educational opportunities.

Achieving sustainability will take decades and can only be done through a collaborative approach from all levels. But after just one year into the SGMA, DWR has seen a tremendous shift in groundwater management trends and has begun to bring together the elements needed to help local communities manage groundwater with more resiliency and flexibility. 💧



**To learn more**  
about the Sustainable Groundwater Management (SGM) Program, visit the website at [www.water.ca.gov/groundwater/sgm/index.cfm](http://www.water.ca.gov/groundwater/sgm/index.cfm)



## Teachers Learn about Floodplain Ecosystems

# Exploring Watersheds

By Jennifer Iida

As a child, Stacy Cepello, DWR FloodSAFE Environmental Stewardship and Statewide Resources Office (FESSRO) Program Manager, hit the jackpot when it came to teachers. His teachers inspired Cepello to strive for a life dedicated to science and the environment. Years later, Cepello helped create the first Floodplain Ecology Institute to educate teachers about the Central Valley Flood Protection Act of 2008 and the goals of the Central Valley Flood Protection plan (CVFPP).

“In terms of public outreach and education, the CVFPP represented fertile common ground—where conservation and public safety overlap,” said Cepello. “This provided an opportunity to explore the development of new river and floodplain curriculum that could be incorporated into the science framework for the Department of Education.”

During multi-day training sessions, teachers gain take-away knowledge about river and floodplain ecosystems. The teachers then repackage the information to expand the minds of their students.

“Part of the reason we provide this education for teachers through these institutes is because of the science, technology, engineering and mathematics education policy and curriculum choices in schools to help improve competitiveness,” said Monique Wilber, former DWR FESSRO Senior Environmental Specialist.

This year, participants paddled their way through the Cosumnes River Preserve in Galt by canoe while practicing field research skills with staff from the preserve and the University of California Davis Center for Watershed Sciences.





**Page 18:** Stacey Cepello of DWR provides tours of floodplain ecosystems to educators along the Sacramento River. **Above:** On June 24, teachers canoe at the Cosumnes River Preserve as part of the Floodplain Ecology Institute created by DWR. **Below:** Monique Wilber of DWR speaks about floodplain ecology.

Other highlights of the institute's sessions included a tour of West Sacramento with a Flood Protection Manager, a Yolo Bypass tour highlighting Knaggs Ranch and the Nigiri Project, which uses rice fields for seasonal salmon habitat.

"DWR and other state, federal and local agencies, private companies, private individuals and non-governmental organizations also give lectures and insights from a variety of backgrounds, to help understand different points of view in their watershed," said Wilber.

Those other agencies and companies include the Yolo County Office of Education, City of West Sacramento, United States Geological Survey, U.S. Army Corps of Engineers, Center for Land-Based Learning and the California Regional Environmental Education Community administered by the California Department of Education.

The first two Floodplain Ecology institutes, built on the foundation of the Delta Studies Institute (co-sponsored by the San Joaquin County Office of Education), were held in Stockton in 2012 and 2013, then expanded to California State University (CSU),

Chico, CSU Fresno and this year to West Sacramento and Yolo County.

"The interaction between the teachers and scientists is huge because we're making the science relevant to them," said Michelle Robinson, former DWR Water Education Specialist. "There is not a separation between what is going on in the science community and what is going on in the classroom with these meaningful activities."

Part of the program also involves teachers reporting back to show how they have implemented their experiences through videos and photos.

Although funds for this program are scheduled to sunset in a few years, Cepello has high hopes this institute has inspired other divisions to follow suit and become involved with school education components.

"My hope is that it becomes integrated into the core framework of teachers' support systems and that this teacher training will prove to be valuable," said Cepello. "We supplied the concept and some seed money and now it's got to stand on its own two feet. I hope it will continue to grow." 💧



**To learn more**  
about the Floodplain  
Ecology Institute, visit [www.  
watereducation.org/project-wet](http://www.watereducation.org/project-wet)



Using a helicopter with sensing equipment, DWR conducts electro-magnetic survey along the Wadsworth Canal in Sutter County.



# Detect & Assess

By Cait Plantaric

## DWR Develops Innovative Levee Evaluation Methods to Protect Californians

Imagine redefining and setting a new standard for “best practices” in your field of work.

Imagine working for eight years on a project that requires an interagency agreement with the California Highway Patrol (CHP) for rolling lane closures, extensive media outreach so the public knows the helicopter that looks like it’s carrying a torpedo is not actually carrying a torpedo and working with software developers to improve their software because you keep “breaking” it with tens of millions of complex calculations. Imagine when you are done, you and your team have accomplished something that has never been done

before—anywhere in the world. According to the DWR’s Division of Flood Management Supervising Engineer Steve Mahnke, “The Dutch have come the closest but nothing this comprehensive, not this many miles, not this many technologies, not this many tools have been developed.”

When the Division of Flood Management’s (DFM) Non-Urban and Urban Levee Evaluations (NULE/ULE) project started in 2006, Mahnke had no idea it would grow from evaluating approximately 350 miles of urban State Plan of Flood Control (SPFC) levees to almost 2,000 miles of urban and non-urban levees





and from the initial three-year timeline to eight years. Though the initial scope of the NULE/ULE project was a comprehensive evaluation of SPFC levees protecting urban areas (10,000 people or more), DWR management decided to expand the project to include non-urban levees because so many small communities (fewer than 10,000 people) are protected by SPFC levees.

The decision was also made to evaluate “pertinent” non-SPFC levees. These levees protect the same areas SPFC levees protect.

When asked why pertinent non-SPFC levees were evaluated, NULE/ULE Project Manager Mahnke replied, “Well, it’s not really helpful to a community to know the condition of only half of the levees that protect it.” Ultimately, the project area stretched from Chico to Gravelly Ford, west of Fresno.

### Cutting-Edge Technology

Standard methods for evaluating levees included analyzing available construction history, knowing seepage and stability issues and collecting borings and cone penetrometer samplings. However, these only provide information about the levees themselves—not the ground on which they sit. This is important because if the ground under a levee includes enough highly permeable soils, such as sand or gravel, it can become unstable, making the levee unstable. In order to comprehensively evaluate levees, Mahnke’s team employed methods, from low-tech to cutting-edge high-tech that had never before been used for evaluating levees.

Low-tech methods included reviewing and analyzing historic aerial photos and soil surveys to get an understanding of near surface geological conditions. High-tech methods included Helicopter Electro-Magnetic (HEM), Light Radar (LiDAR) and bathymetry surveys.

HEM surveys had never been used for evaluating levees (they are typically used for mining purposes in Australia). HEM surveys provide information about the elec-

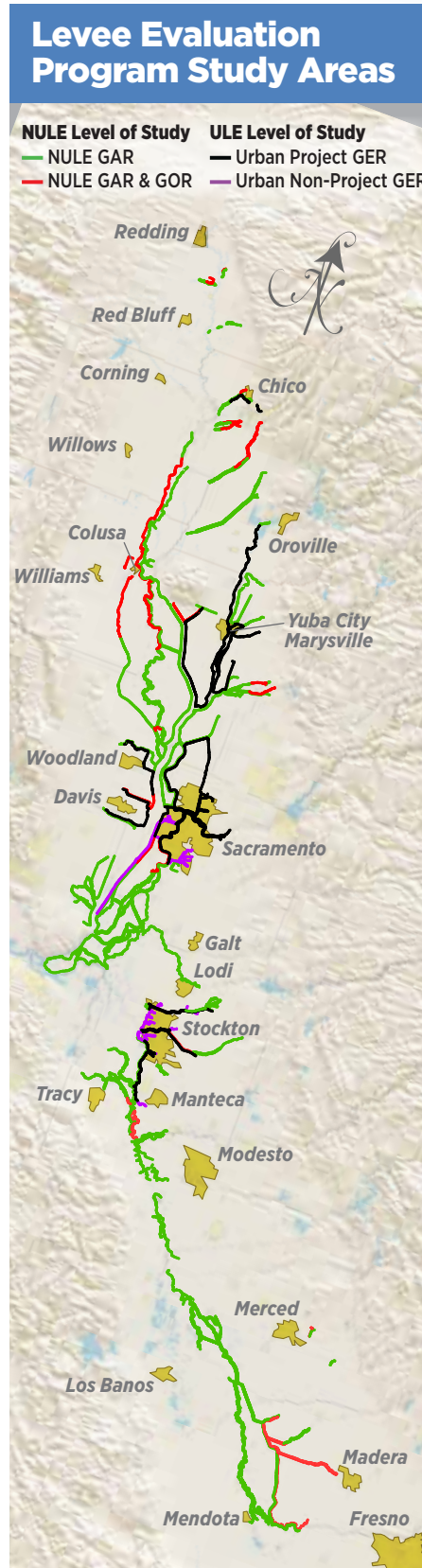
trical behavior of soils to a depth 100 feet below the ground. To get an accurate assessment of the ground supporting the levees, one pass was made over the centerline of the targeted levees, at the levee toe on the water-side and at the toe on the landside.

Because the sensing equipment used for HEM surveys is slung beneath the helicopter and looks a lot like a torpedo, public outreach was critical. DWR’s Public Affairs Office helped coordinate media outreach, so the media could keep the public informed. Since Federal Aviation Administration regulations do not allow “slung loads” to be carried over roadways or buildings, the NULE/ULE team had to develop an interagency agreement with the CHP for moving lane closures on freeways between Yuba City and Lathrop.

LiDAR surveys that provide topographic data are easier to conduct. Instead of “bouncing” sound off of terrain the way sonar does, LiDAR bounces laser light off of terrain to gather topographic data. Data was collected from a 500-foot swath (250 feet either side of levee centerline). Because the resolution of the data is so accurate, DWR and local agencies are using it for design and construction of levees. When the laser light hits water, it doesn’t bounce, so bathymetry is needed.

Bathymetry uses sonar to map the topography of underwater terrain. Combining LiDAR and bathymetric data, the team developed a nearly continuous topographic profile of the terrain 250 feet from the centerline of targeted levees on the landside all the way across the river channel.

After the sonar data was collected and analyzed, the team created a colorized “swim through” video that allows the viewer to see pipe crossings, sink holes and scours in riverbanks. DFM’s Utility Crossing and Flood Emergency Response programs, local flood management agencies and at least one tribal entity are using the bathymetry data and “swim through” video.







### Developing Effective Tools

As data was collected, cross-referenced and analyzed, the team began developing three different types of reports, such as geotechnical engineering reports (GERs), geotechnical overview reports (GORs) and geotechnical assessment reports (GARs).

GERs, done for urban areas, were the most robust evaluations. They included both geotechnical and non-geotechnical risk factors. GORs were done for levees that protect small communities. The analyses consisted mostly of levee borings, cone penetrometer samplings, review of existing reports and site visits. The analyses from the GORs can help local levee agencies achieve FEMA 100-year level certification for these levees. For the most rural areas (less than 1,000 people), GARs were done, consisting primarily of reviewing extant reports and studies, interviewing local levee maintainers and site visits.

While team members were developing the analyses reports, they also were creating tools for DWR, stakeholders and planners to use, such as a searchable geotechnical integrator (gINT) database of boring locations and analyses.

After the gINT database was developed,

it was combined with a geographic information system map layer and incorporated into the new Levee Evaluations Program website. The website provides the locations of and information about the data collection methods, such as borings and cone penetrometer samplings. Website is at <http://www.dwr-lep.com/auth>.

“The most well-thought-out feature of the website is the user’s ability to directly access applicable geotechnical data and analyses information for each levee reach that was evaluated,” said Youssef Awad, South Area Manager for ULE project. “Users have a one-stop-shop for information about the nearly 2,000 miles of levees that were evaluated.”

The cost estimating tool provides a consistent process for estimating repair costs for the entire SPFC and to reflect actual costs. It can be used for different types of levee repairs such as berms and cut-off walls. The tool provides a means for DWR and local agencies to reasonably estimate project costs early in the project timeline.

As part of its process, the team created a geotechnical guidance document that describes all of the data gathering and analyses techniques and processes it used. The document was initially to ensure consistency of work among the different basins the team was evaluating. Because the team used such a wide array of data collection techniques and documented its processes so thoroughly, the guidance document is now being used in Japan, Australia, New Zealand, Great Britain and across the United States as the model for how to effectively evaluate levees, and the team’s methods have become the standard for evaluating levees in the United States.

Mahnke said one of the keys to the project’s success was active stakeholder, local and partner agency involvement—from determining levee reaches and soil types to reviewing preliminary analyses results and developing potential means for mitigating levee deficiencies. 💧

**Above:** Drilling operation gathers levee and foundation soil samples. **Below, left to right:** DWR levee evaluation project staff include Constantin Mercea, Youssef Awad, Steve Mahnke, Claudio Avila, Steve Sunding, Dion Abellon, Mike Engelmann and Vince Rodriguez.





# Rising to the Occasion

## DWR teams up with Cal Fire to help tackle Lake County blazes

By Christina Jimenez

**D**WR's Division of Flood Management stepped outside of its typical world of water to lend a hand to the California Department of Forestry and Fire Protection (Cal Fire) in its battle against the Rocky and Jerusalem fires in Lake County.

DWR's Flood Operations Center was contacted by the Governor's Office of Emergency Services (Cal OES) on the morning of August 12, requesting support from not only DWR, but the California Department of Transportation (Caltrans), California

Department of Fish and Wildlife, California National Guard, Yolo County Office of Emergency Services and Yolo County Public Works. In order to aggressively fight the Lake County fires, a way had to be found quickly and safely to get crews across Cache Creek near Yolo County Road 40.

"Along County Road 40, a quarter mile off of Highway 16, there is an existing old concrete bridge over Cache Creek," said Senior Engineer Eric McGrath, leader of DWR's Incident Command Team Four. "However,



# Step-by-Step

STEP

1

Three 36-inch diameter culverts are installed on the existing creek bottom.



STEP

2

The buoyant culverts are floated into position and held in place with a boom truck while gravel is placed over them.



STEP

3

With the crossing nearly complete, gravel is placed above the culverts to a depth adequate to prevent crushing of the culverts when heavy equipment uses the crossing.



the existing bridge is out of service. So, Cal OES asked us state and local agencies to come up with a plan to get crews across."

Many alternatives were suggested, but ultimately DWR offered the best solution.

"It basically came down to which department could help Cal Fire the most economically and the fastest," said McGrath.

DWR's Sutter Maintenance Yard installed three 36 inch diameter pipes measuring 40 feet long adjacent to the original bridge, and surrounded them with 600 tons of imported gravel and 400 tons of Caltrans rockslide debris from a nearby spoil pile, creating a crossing for Cal Fire crews.

"We began working on site at 12:45 p.m. on August 12 and our team of eight completed the crossing by 4 p.m. the following day," said Joel Farias, Sutter Maintenance Yard Utility Craftworker Superintendent. "Without hesitation, we jumped at the opportunity to help. We knew we could build it."

The three pipes allow the water in Cache Creek to continue flowing and were designed with the ability to withstand surges in the river and small rain events. The temporary crossing was removed on October 27, around the start of California's flood season.

"Without the crossing, it would have taken crews six and a half hours to get to and from with their bulldozers and heavy equipment needed to fight the fires," said McGrath. "We significantly cut down their travel time."

As the crossing was on Yocha Dehe Wintun Nation land, DWR worked closely with the tribe to ensure the area was not disturbed.

Together, the Rocky and Jerusalem fires burned more than 95,000 acres in 28 days, destroying 49 homes and 74 outbuildings.

"We are proud to be able to do this type of work in a short order, helping a cause that we all benefit from," said McGrath. "The air quality affects everyone. It was a great opportunity for DWR to step up, plan quickly and to shine." 💧



# Levee Repair

DWR Deputy Director Gary Bardini (right), Central Valley Flood Protection Board President Bill Edgar (below, third from left), along with DWR Flood Management staff join local and federal officials to launch work to repair 3.4 miles of levee on the east bank of the Knights Landing Ridge Cut in Yolo County.

The State is paying for 85 percent of the \$7.6 million project through Propositions 1E and 84, passed by voters in 2006. Deputy Director Bardini told the attending crowd that “the lessons learned from the ten-year process to launch this repair will guide our agencies in how we approach levee repairs together in the years to come.”





# People



## Living Windows

**Vista del Lago Guides  
Speak to Visitors about  
California's Water**

### On The Spot:

**Kathy Simmons, Jeff Winchester and Mary Adams are on the front line when it comes to educating people about the State Water Project.**

As guides at Pyramid Lake's Vista del Lago Visitors Center just off busy Interstate 5 north of Los Angeles, the DWR employees also get an international perspective from visitors dropping in from around the world.

"We are the 'windows' to the Department," said Kathy. "People demand answers on numerous subjects and rely on us to provide them."

And Kathy, Jeff and Mary often have questions for the visitors.

"It's amazing what you can learn about a drought after talking with someone from Australia, or learn about conveyance systems after speaking with a dignitary from China," said Kathy.

Kathy, who has been with the DWR for 23 years, has seen the center expand in its outreach. When Kathy was first promoted into a Guide I position in 1997, tours involved showing three different exhibits. Tour groups would then view the rest of the center on their own.

Almost two decades later, the average tour includes a presentation that covers both the State Water Project (SWP) and water safety.

Then a movie selected to meet the interests of the group is shown in the center's 130-seat theater before the visitors are offered a tour of educational exhibits.

Among the center's attractions is the "Ancient Waters" exhibit that focuses on how past societies moved water. The "Threats & Innovations" exhibit highlights various conditions that can affect our water quantity.

Jeff and Mary – The Visitors Center's newest guides – can attest to informative and insightful experiences while working at the center. Jeff began working as a Guide II in October of 2014, and Mary became a Guide I in April of 2015.

Mary worked in the hotel travel field while volunteering at a local museum in Lancaster.

While Jeff previously worked as a DWR





Technician I performing maintenance on aqueducts and reservoirs for the Southern Field Division, his role as a guide has expanded his knowledge about DWR recreation areas, such as Lake Perris and Silverwood Lake, which he would see on a daily basis.

As visitors enjoy the spectacular view of the SWP's Pyramid Lake, DWR's Vista del Lago guides look forward to educating them about one of California's most precious resources - water. 💧

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**Page 26:** Mary Adams, newest Guide to DWR's Vista del Lago Visitors Center, explains the California water map exhibit to visitors. **Above:** Viewing Pyramid Lake from the Visitors Center, Guide Jeff Winchester (**left**) highlights recreation opportunities. **Right:** Drought-tolerant plants surround Vista del Lago Visitors Center located in Los Angeles County.





# Making a Difference

## DWR employees Sharon Brown and Jaime Cofer Recognized for *Catch a Special Thrill* for Kids Efforts

**Southern Region Office employee Sharon Brown enjoys teaching children how to be water wise while having fun during the “Catch a Special Thrill” for Kids (C.A.S.T.) events.**

Sharon, who has helped with C.A.S.T. for more than a decade, always feels rewarded for her hard work and long days when she is able to bring a smile to the faces of children and their parents.

“When I first began working with the C.A.S.T. events, I knew everyone had to leave their egos at the door to make sure the kids went home happy and that we impacted their lives

with positivity,” said Sharon.

As a C.A.S.T. Coordinator, Sharon organizes events at several State Water Project sites, such as Lake Perris, Castaic Lake and Silverwood Lake.

A typical day at a C.A.S.T. event allows special needs children to board a boat, receive natural resources and safety education, learn boat mechanics and fishing techniques from experienced boaters and anglers.

While coordinating with other state agencies, Sharon is responsible for all registrations concerning participants, boaters and volunteers.

“For more than 11 years since I began working with C.A.S.T., I cannot remember a time that I wasn’t happy working with this program,” said Sharon.

DWR Water Resources Technician II Sharon, who has worked more than 25 years for DWR, also is an Outreach Coordinator for the Southern Region Office’s Land and Water Use Section in Glendale. Her presentations cover water conservation, State Water Project (SWP) recreation and the importance of water at fairs, festivals and conventions throughout Southern California.

For her dedication to the C.A.S.T. program, Sharon was recognized as a “Special Thrill Maker.”

DWR Office Technician Jaime Cofer is no stranger to volunteer work. When not helping to promote water conservation and SWP recreation at outreach events for DWR’s Public Affairs Office, she volunteers at “Catch a Special Thrill” (C.A.S.T.) for Kids events.

“C.A.S.T. is an amazing, inspirational program that allows disabled children and their families to experience a day of fishing off a boat with the help of generous, exceptional people who volunteer their time and resources to give the families a day to remember,” said Jaime.

Children in the C.A.S.T. program learn about the environment and the tools and dynamics associated with fishing.

After going out on the water to experience what life is like for the everyday angler, the children return for lunch and an awards ceremony, where they receive a plaque along with a picture of themselves and their volunteer boaters.

As Jaime’s involvement with the program has evolved, she has helped with C.A.S.T. events at six locations.



Jaime

Jaime coordinates boat capacity and collects information for the program’s members. She also collaborates with graphic designers by giving feedback on the development of certificates that are given to the volunteers and sponsors of the program.

Jaime was presented with the “Special Service Award” for her continued C.A.S.T. service and support.

“I was extremely honored and surprised because I already feel blessed to be a part of this highly rewarding event. I am so grateful for everyone that puts C.A.S.T. together and the hard work they do, and I am especially honored to be a part of that and recognized by my peers.”

C.A.S.T. is a non-profit organization known nationwide for its 24 years of helping children with disabilities experience fishing in lakes and rivers within or near their hometowns. 💧

**To learn more about C.A.S.T., visit [Castforkids.org](http://Castforkids.org)**



Sharon



# Adapting to a Changing Landscape

## Michelle Selmon Honored for Climate Change Work

How will wildfires, droughts, floods and sea level rise affect our water supply? These are just a few of the climate change concerns that Michelle Selmon addresses as a DWR Senior Environmental Scientist. For her dedication to advancing and implementing actions for adaptable ecosystems, Michelle received the California Landscape Conservation Cooperative (CA LCC) Outstanding Partner Award last year.

"I was honored to receive the 2014 Outstanding Partner award," said Michelle, who works for DWR's Division of Integrated Regional Water Management at the South Central Region Office. "I appreciated that the CA LCC Steering Committee recognized the time and energy I have devoted to the CA LCC."

For the past five years Michelle has represented DWR on the CA LCC, a partnership in which state, federal and non-government organizations work together to promote effective management and conservation of natural resources. Michelle has participated in multiple subcommittees, including serving as Chair of the Tribal and Traditional Ecological Knowledge Team and Vice-Chair of the Steering Committee.

Michelle has been part of many diverse teams to help respond to climate change and educate the public on environmental issues. As a Regional Climate Change Specialist and Wildlife Biologist, Michelle has provided technical assistance to not only DWR but to other departments and agencies, as well as members of the public.

One of her many responsibilities involves working with local water managers and helping

them incorporate techniques to moderate and effectively respond to current and future climate change by factoring it into their Integrated Regional Water Management Plans. Michelle leads the Tulare Basin Watershed Connections Workgroup, a group collaborating on integrated resource management across the watershed.

Michelle has been one of the leads for DWR's Climate Change Outreach Team on communicating climate change impacts, such as extreme heat, ecosystem services impacts and hydrologic changes.

"I've given presentations on current and future climate change impacts to water and ecosystems to diverse audiences at forums such as the University of California Davis Extension, the California Climate Adaptation Forum, DWR Environmental Scientist Workshops and numerous K-12 classes," said Michelle, who has also taught DWR's Climate Literacy Classes for four years.

To educate DWR staff and the public about climate change and other critical ecological issues, Michelle joined DWR's Climate News Digest team as lead editor in 2010. Climate News Digest is a monthly collection of recent website news articles and publications related to climate change and water management.

"I think it is great that DWR has evolved into an agency with a strong focus on environmental stewardship and leadership in addressing climate change. I'm proud to be a part of the work we do to manage the water resources of California," said Michelle, who joined DWR as a graduate student more than 20 years ago. 💧

## New Hires

### Elias Avila

Delta Field Division  
Utility Craftsworker

### Bradley Braddy

San Joaquin Field Division  
HEP\* Operator

### Fateh Budwal

Operations and Maintenance  
Electrical Engineer

### Robert Butler

Operations and Maintenance  
Heavy Equipment Mechanic

### Casey Campos

Environmental Services  
Environmental Scientist

### Joey Cavazos

Oroville Field Division  
Utility Craftsworker

### Marisol Chavez

Integrated Regional Water Management  
Associate Governmental Program Analyst

### Semyon Chernozubov

Operations and Maintenance  
Electrical Engineer

### Kallie Creviston

Executive  
Office Technician (Typing)

### Kim Davis

Operations and Maintenance  
Electrical Engineer

### Anthony Deus

Flood Management  
Engineer

### Jeremiah Downs

San Joaquin Field Division  
Materials and Stores Specialist

### Daniel Freitas

North Central Region Office  
Environmental Scientist

### Lisa Freitas

Delta Field Division  
Staff Services Analyst

### Rey Garcia

Technology Services  
Systems Software Specialist II

### Timothy Godwin

Integrated Regional Water Management  
Engineering Geologist

### Adam Goldsmith

Fiscal Services  
Office Technician (Typing)

### Trista Gunn

Flood Management  
Office Technician (Typing)

### Alicia Harris

Flood Management  
Office Technician (Typing)

### Steven Heller

Engineering  
Associate Safety Engineer

### James Herink

Office of the Chief Counsel  
Attorney III

### Lauren Hersh

Public Affairs Office  
Information Officer II

\*Hydroelectric Plant



# A New Level

## Croyle Leads Statewide Emergency Preparedness and Security

**Bill Croyle's daily calendar looks pretty much like what you'd expect - meetings one after another booked end-to-end with barely enough time to catch a breath in between.**

That's how it's been for DWR's Drought Emergency Operations Manager since Bill's appointment to that role in December 2013. The pace only quickened this April when he became Deputy Director for Statewide Emergency Preparedness and Security, a new position on DWR's organization chart.

How does Bill describe the experience of being DWR's point person on California's biggest issue of the decade, as well as becoming DWR's newest executive?

"I certainly have my hands full with the current drought conditions," he said. "However, over the past two years we've learned a lot about how the Department and other agencies can be and are more prepared for critical dry periods and other types of large-scale emergencies.

"Our other deputies have been very supportive of my new role and are working with me to take the Department's emergency preparedness and security to a new level."

Bill represents the Department on Governor Brown's Interagency Drought Task Force, which coordinates drought assessment, response and mitigation actions among a multitude of local, state and federal agencies. He sits on various drought task forces

and work groups and oversees the Department's Drought Management Operations Team.

"Early in this drought a number of critical actions were taken to address extreme hydrologic conditions," he said. "Those include the formation of a Department led Real Time Drought Operations Management Team and a multi-agency Water Transfers Workgroup. These teams and many others have shown unprecedented collaboration."

Bill said the teams have coordinated reservoir releases, preserved cold water pools, increased multi-benefit water transfers and Delta emergency operations among other activities.

"We are in unprecedented times with California's surface and groundwater supplies," he said. "Two years ago, the Australians told California, based on their 10-plus-year drought, that we need to plan for extended and extreme dry conditions to persist. We should and we have. We have not seen the full impact of the current drought conditions. California must prepare and respond to continued dry conditions."

Bill said this drought has demanded more of DWR and its personnel than any of California's earlier dry periods. New tools have been developed, technical and policy teams have been activated and weekly planning and reporting efforts have been critical to how

DWR responds to changing hydrologic conditions, he said.

According to Bill, DWR's flood-fighting preparedness and security, two of his responsibilities in addition to drought management, are equally important. California droughts typically end with an extreme flood event, just like in Australia.

"With the current strong El Niño conditions, California must prepare for flooding as well as drought conditions," Bill said. "That's the new norm - preparing for and responding to extreme hydrologic conditions. We will see higher snow elevations due to warmer temperatures and with that, higher rainfall. Our flood control systems will be taxed to meet changing weather conditions - wet or dry - in the years ahead."

The next issue of *DWR*

*Magazine* may describe the first truly wet season in years, but that has yet to occur. What does seem certain is that California's climate in the 21st century is demonstrably different than in the 20th.

California is warming. Last year was the state's warmest, and the first half of 2015 was even warmer. These conditions may produce droughts more frequently than any time in living memory, and Bill said DWR must be ready to meet the challenge:

"I look forward to working with our staff to build the Department's capacity to effectively plan for and respond to floods, drought, earthquakes and other types of emergency that may impact California." 💧





# A Different Challenge

## Arthur Hinojosa Becomes Chief of Integrated Regional Water Management Division

**Arthur Hinojosa wasn't having second thoughts about leaving his post as Chief of the Hydrology and Flood Operations Office (HAFOO) just as a potentially big flood season was about to begin.**

Hinojosa became Chief of the Division of Integrated Regional Water Management (IRWM) on September 21 after six years leading DWR's flood-fighting office. Still, the timing was worth reflection.

"It's a bit of a disappointment to be leaving flood operations just before the traditional wet season," he said, "but any time of the year could be flood season, and you can't make career decisions on the strength of an El Niño."

Besides, challenges abound at IRWM. "I've always found the local issues fascinating," he said, "and now I get to learn more and help guide them." Hinojosa is now responsible for planning, organizing and directing programs and activities conducted by more than 270 DWR personnel in DWR headquarters and IRWM's four region offices – Red Bluff, Sacramento, Fresno and Glendale.

IRWM issues continue to build in importance as California transitions to a new water year and possibly a fifth consecutive year of drought.

Groundwater, surface storage, subsidence – they all require attention as the population increases with growing demands on California's water supply during the climate change era.

Hinojosa's new assignment comes 24 years after joining DWR, but his start with the department wasn't smooth.

He had just earned his engineering degree at the University of California, Berkeley. "Things were looking up when I got my first interview offer from DWR's Northern District in Red Bluff," Hinojosa recalled, "but barely a week later, they canceled the interview. The recession of 1991 had just begun, and Governor Wilson issued a hiring freeze. I was one of the first in a generation of engineers to graduate without a job in hand."

Hinojosa's unemployment didn't last long, and he joined DWR working in what later became the Bay-Delta Office's Modeling Branch. His job progression took him to the Division of Operations and Maintenance (O&M) at the Joint Operations Center, to a special assignment with the Metropolitan Water District of Southern California, back to O&M, then to chief of the Hydrology Branch and finally to HAFOO as chief.

"Throughout my career, I've interacted with lots of people and agencies," he said. "I've gotten an appreciation for the diversity of water, and there's a whole fleet of people in the IRWM world I'm looking forward to knowing." ♦



### New Hires

**Kristine Higgs**  
Flood Management  
Research Program Specialist II

**Tiffany Holley**  
Southern Field Division  
Junior Engineering Technician

**Shawn Holloway**  
Southern Field Division  
Associate Safety Engineer

**Laura Jensen**  
FESSRO\*\*\*  
Senior Environmental Scientist

**Barrett Kaasa**  
North Central Region Office  
Engineering Geologist

**Nicholas Labedzki**  
Engineering  
Transportation Surveyor

**Linh Tue Lac**  
Fiscal Services  
Accounting Officer

**Kevin Lim**  
Fiscal Services  
Office Technician (Typing)

**Andrew Lutz**  
Safety of Dams  
Engineering Geologist

**Michael Maxwell**  
Delta Field Division  
Materials and Stores Specialist

**Brittany Mullin**  
Business Services Office  
Staff Services Analyst

**Jon Nguyen**  
Statewide Integrated Water Management  
Engineer

**Tami Oda-Ishida**  
Technology Services  
Systems Software Specialist II

**Breanne Oliphant**  
Business Services Office  
Staff Services Analyst

**Edwin Perez**  
Human Resources Office  
Labor Relations Specialist

**Bryan Prestel**  
Flood Management  
Electrical Engineer

**Nicole Robinson**  
Operations and Maintenance  
Associate Governmental Program Analyst

**Alfredo Robledo**  
Engineering  
Associate Safety Engineer

**Omar Saenz**  
Southern Field Division  
Junior Engineering Technician

**Raymond Santiago**  
Southern Field Division  
Junior Engineering Technician

**Heather Shannon**  
North Central Region Office  
Engineering Geologist

**Robert Smith**  
Flood Management  
Utility Craftworker

\*\*\* Floodsafe Environmental Stewardship and  
Statewide Resources Office



## New Hires

### **Rupa Somavarapu**

Flood Management  
Engineer

### **Chelsea Spier**

Flood Management  
Engineer

### **Katherine Spiess**

Technology Services  
Associate Information Systems Analyst

### **Emily Stanley**

Business Services Office  
Office Assistant (Typing)

### **Michael Steinbacher**

Safety of Dams  
Associate Safety Engineer

### **Anthony Tambellini**

Operations and Maintenance  
Mechanical Engineer

### **Nur Taraky**

Bay-Delta Office  
Engineer

### **Daniel Tumiati**

Integrated Regional Water Management  
Associate Safety Engineer

### **Patricia Vellines**

Northern Region Office  
Senior Engineering Geologist

### **Lindsay Wagner**

Human Resources Office  
Associate Personnel Analyst

### **Suzie Wong**

Fiscal Services  
Associate Accounting Analyst

### **Tou Lia Xiong**

Business Services Office  
Staff Services Analyst

## Promotions

### **Kathy Aldana**

Human Resources Office  
C.E.A.

### **Gregory Aleksich**

Engineering  
Associate Cost Estimator

### **Ira Alexander**

Northern Region Office  
Water Resources Engineering Associate

### **Christopher Ansell**

Delta Field Division  
Associate Safety Engineer

### **Devlin Autry**

San Joaquin Field Division  
HEP\* Technician II

### **Maninder Bahia**

Environmental Services  
Senior Engineer

### **Joseph Bartlett**

Flood Management  
Supervising Engineer

### **Jacob Beauchamp**

Oroville Field Division  
HEP\* Mechanic I

### **Darren Becker**

FESSRO\*\*\*  
Executive Secretary I

\* Hydroelectric Plant

\*\*\* Floodsafe Environmental Stewardship and  
Statewide Resources Office

# A Faster Way By Dorothy Howard

## Karina Bailey Honored for Improving Check-In Method

**Karina Bailey, Staff Services Manager I in the Management Analysis Office of the Business Services Office, received an Improved Procedure Award for her suggestion to minimize long lines when signing in to confirm attendance at training events in the auditorium.**

Sometimes a large crowd is trying to get to one location at training events, and if the line takes too long then employees usually bypass the sign-in sheet. The employee later has to work with a Training Coordinator or the Training Office to get credit for attendance.

Karina suggested using a handheld scanner to swipe or scan identification cards. It was determined her suggestion did not justify the cost for the scanning devices and the cost of the work to interface with SAP.

Karina's proposal prompted the Training Office to come up with alternative methods of speeding up the sign-in process.

The alternate method is to have three separate sign-in sheets, broken down alphabetically. Training Office staff is posted to ensure that class participants are directed to the appropriate sign-in sheet and that lines are kept to a minimum.

On December 12, 2014, a Workplace Safety Training event was held in the auditorium, and this process alleviated the problem of long lines. Participants were able to quickly sign-in and proceed to their seats. 💧

**Information about the State's Employee Suggestion Program can be found at [www.calhr.ca.gov](http://www.calhr.ca.gov).**

**The Merit Award Program is located on the home page under "Popular Links," or by contacting the DWR's Merit Award Administrator at (916) 653-0717.**







# The Lift

**DWR Retiree Recognized for Work on Rockets that Helped Get Man to the Moon** 🌐

If you've ever watched video of NASA's Saturn rocket lifting off from Kennedy Space Center in 1969 on its way to deliver the first man on the moon, you might have felt patriotic pride seeing the big red U, S and A letters on the rocket's side slide up the TV screen. 🌐

They were painted on the rocket's first stage, which powered the liftoff. Two more stages were stacked above stage one, and the entire package was the most powerful rocket ever produced. It had to be to lift astronauts into Earth orbit and then to the moon. 🌐

DWR Water Resources Technician II Richard Serrano never tires of watching that video. He had a hands-on job in the 1960s preparing Saturn rocket components for their high-visibility mission.

Richard had picked up skills during four years with the Air Force that led to five years of employment at Douglas Aircraft Company in the 1960s. Douglas assembled the Saturn rockets and tested them at the company's Rancho Cordova facility. 🌐

Before testing, every part had to be spotlessly clean, and that was Richard's job. "I worked in the Clean Room and Test Lab," he recalled,

"and it was a critical step. Every part of the rocket had to be absolutely clear of dust and grease. Once I cleaned and tested a part, it was ready to go on the rocket, and I'd put my stamp of approval on it and seal it in plastic for later assembly on the rocket or test stand." 🌐

By 1967, Douglas Aircraft was struggling with production costs and merged with McDonnell Aircraft Corporation. Fewer employees were needed at the test facility, and Richard was among the junior personnel who were laid off in 1968. 🌐

Richard's 30-year DWR career began two years later in construction at Devil Canyon Powerplant. He later qualified as a diver and inspected gates, canals and spillways during most of his state service. 🌐

Memories of Richard's Space Age years are kept alive at annual Douglas alumni picnics, but a book published in August is spreading those memories far beyond the group. 🌐

Alan Lawrie, a Briton and satellite propulsion engineer, has written "Sacramento's Moon Rockets" to commemorate the local facility's role in helping bring about what he calls "one of the greatest achievements in human history." 🌐

Richard contributed several photographs for the book, which he says is a fine tribute to Sacramento's involvement with America's space program and to everyone involved. 🌐

"I practically cried the night of the first lunar landing," he said. "We helped those guys get to the moon. I did my job, and that was it." 💧

*Credit: photos of rocket courtesy of Richard Serrano*



## Promotion

**Ann Bradell**  
Business Services Office  
Staff Services Manager I

**Susan Bradley-Hudson**  
Integrated Regional Water Management  
Staff Services Manager I

**Joseph Bridgford**  
San Luis Field Division  
HEP\* Electrician I

**Timothy Case**  
Engineering  
Senior Land Surveyor

**Paul Casillas**  
Flood Management  
Associate Safety Engineer

**Jason Cooper**  
Flood Management  
Assistant Utility Craftsworker Superintendent

**Mark Cusick**  
Technology Services  
Systems Software Specialist III (Supv.)

**Geeta Devi**  
Fiscal Services  
Associate Accounting Analyst

**Jamie Dubay**  
Northern Region Office  
Senior Environmental Scientist

**Patricia Esquivel**  
Technology Services  
Systems Software Specialist II

**Megan Evans**  
Southern Field Division  
Senior Environmental Scientist

**Stuart Farley**  
Flood Management  
Supervising Engineer

**Pauline Felix**  
Technology Services  
Staff Information Systems Analyst

**Scott Flory**  
North Central Region Office  
Senior Environmental Scientist

**Amapola Francisco**  
Fiscal Services  
Associate Accounting Analyst

**Guynel Gagot**  
Business Services Office  
Associate Governmental Program Analyst

**Diana Gillis**  
Delta Field Division  
Chief

**Jesus Gonzalez-Perez**  
Fiscal Services  
Accounting Officer

**David Graber**  
San Joaquin Field Division  
Utility Craftsworker

**Matthew Harris**  
Human Resources Office  
Associate Personnel Analyst

**Melanie Holman**  
Engineering  
Office Technician (Typing)

**Jean Hostler**  
Southern Field Division  
Senior HEP\*\* Engineer (Supv.)

\* Hydroelectric Plant

\*\* Hydroelectric Power Utility

## CELEBRATING

# 40 & 25 Years of Service

### 40 Years of Service



**John Bunce**  
Southern Field Division  
Chief  
April 2015



**Chris Navarrete**  
Technology Services  
Data Processing Manager III  
September 2015

### 25 Years of Service



**Jesus "Jay" Murillis**  
Southern Field Division  
Hydroelectric Plant Technician II  
August 2015



**Ed Perez**  
Human Resources  
Labor Relations Specialist  
July 2015



**James Rathke**  
Operations and Maintenance  
Water Resources Engineering Associate  
July 2015



**Dave Paulson**  
State Water Project Analysis Office  
Supervising Engineer  
September 2015



**Baldev Randhawa**  
Delta Field Division  
Senior Hydroelectric Power Utility Engineer  
June 2015



**Jim Veres**  
Engineering  
Supervising Engineer  
October 2015



## 25 Years of Service



**Sal Batmanghilich**  
Environmental Services  
Senior Engineer  
September 2015



**Margaret Durkin**  
Flood Management  
Staff Services Manager I  
September 2015



**Tara Smith**  
Bay-Delta Office  
Supervising Engineer  
October 2015



**Olivia Zalameda**  
Technology Services  
Staff Information Systems Analyst  
August 2015



**Tom Beiler**  
Human Resources Office  
Labor Relations Officer  
July 2015



**Laura Hamilton**  
Environmental Services  
Associate Governmental Program Analyst  
October 2015



**Gregory Smith**  
Statewide Integrated Water  
Management  
Program Manager II  
July 2015



**Tracy Ching**  
Operations and Maintenance  
Senior Control Engineer  
July 2015



**Scott Hunt**  
Operations and Maintenance  
Senior Hydroelectric Power Utility Engineer  
June 2015



**Russell Stein**  
Executive  
Assistant Deputy Director  
November 2015

**Congratulations,  
Graduate of the  
Professional  
Engineer Exam**



**Matthew Mulligan**  
North Central Region Office  
Engineer  
May 2015

### No Photo:

**Marie Buric**  
Engineering  
Senior Right of Way Agent  
August 2015

**Juan Mercado, Jr.**  
Engineering  
Senior Right of Way Agent  
August 2015

## Promotions

**Mary Jimenez**  
Flood Management  
Supervising Engineer

**Casey Jones**  
San Luis Field Division  
Utility Craftworker Supervisor

**Christina Kashiwada**  
Engineering  
Senior Engineer

**David Kearney**  
Business Services Office  
C.E.A.

**Ryan Keith**  
Executive  
Safety Engineering Technician

**Joseph Kranhold**  
Flood Management  
Senior Environmental Scientist (Supv.)

**Nielson Kwong**  
Operations and Maintenance  
Systems Software Specialist III

**Paul Larson**  
North Central Region Office  
Senior Engineer

**Corey Lasso**  
Flood Management  
Senior Engineer

**Gary Lemon**  
Central Valley Flood Protection Board  
Senior Engineer

**Sarah Lever**  
San Joaquin Field Division  
Associate Governmental Program Analyst

**Erik Malvick**  
Safety of Dams  
Supervising Engineer

**Hasan Morshed**  
Technology Services  
Data Processing Manager IV

**Tiffany Navarrette**  
Human Resources Office  
Labor Relations Specialist

**Wilma Ordiz**  
Operations and Maintenance  
Associate Telecommunications Engineer

**Daniel Orr**  
Operations and Maintenance  
Associate Telecommunications Engineer

**Melissa Pi**  
Safety of Dams  
Senior Engineer

**Beatrice Rocha**  
State Water Project Power & Risk Office  
Electrical Engineer

**David Sarkisian**  
Operations and Maintenance  
Supervising Engineer

**Anthony Schnepel**  
Operations and Maintenance  
Senior Water and Power Dispatcher

**Matthew Schroeder**  
Technology Services  
Systems Software Specialist III

**Cynthia Schut**  
Delta Field Division  
Utility Craftworker Supervisor



# Water Wise Californians

By Akiela Moses

## DWR's Award-Winning Exhibits Showcased at the California State Fair

**T**housands of Californians visited DWR's two informational exhibits at the 2015 California State Fair and took away water-saving tips for their homes and yards.

"Both exhibits received a first-place award from the National Association of Government Communicators (NAGC) in the display category," said Dorothy Benjamin, Chief of the Water Education and Outreach Branch in DWR's Public Affairs Office. "A special thank you goes to the 'exhibit team' and the many volunteers who staffed the exhibits. We had 295 shifts and 142 volunteers from many different divisions and offices within the Department, and we are deeply thankful of their generosity, because without them, it would not have been possible."

The outdoor exhibit titled "Water-Wise Landscaping—It's as easy as 1,2,3" was located in the fair's Farm Section and offered simple tips for landscape irrigation efficiency, how to keep shade-giving trees alive and how to maintain the various drought-tolerant plants that were featured throughout the exhibit.

The indoor exhibit in the Counties Building titled "Californians Don't Waste – Save Water in Your Home" was part of the State Fair for the second consecutive year. It offered fairgoers hands-on demonstrations of simple ways to save water in their kitchen, laundry room and bathroom. DWR staff explained the water-saving techniques in the interactive home exhibit.

"There was a very positive response from the public about the exhibits' message," said Bay-Delta Office Chief Paul Marshall. "People were excited the state was bringing attention to the drought and water conservation."

The "Californians Don't Waste—Save Water in Your Home" exhibit also appeared at the Big Fresno Fair on October 7-18, 2015. A big thank you to the South Central Region Office employees who staffed the Fresno exhibit ☺



**Above: Among the 142 volunteers, Mark Holderman of the Bay-Delta Office explains how low-flow showerheads**

**save water and Sarah Torgersen (at left) of Operations and Maintenance shows ways to save water in the kitchen, such as using dishwasher with full loads. Below (left to right): Kathleen Considine of Flood Management, Ben Geske of the Bay-Delta Office and Exhibit Manager Dorothy Benjamin of Public Affairs provide water-wise tips, such as how to plant drought-tolerant plants.**





# Retirements

From assisting with the correction of a pay range change to modifying an employee's health plan, these were just a few of Personnel Supervisor **Karen McGrath's** assignments. After four years with DWR, Personnel Supervisor Karen retired from DWR's Human Resources Office Payroll and Benefits Branch with 28 years of state service.

"I did a lot of problem-solving in my day-to-day work, it was my responsibility to help troubleshoot," said Karen.

"I worked directly with personnel specialists teaching and coaching them to accurately process employee payroll, position changes and benefit enrollments. I assisted them in locating documenting forms, identifying resources and processing the appropriate paperwork."

One of the larger projects Karen had an active role in was the CalPERS Dependent Eligibility Verification (DEV) project in 2014 when all state employees

were required to provide proof of dependent relationships for health benefit coverage. She researched, cross-referenced and drafted the letters distributed to DWR employees requesting the necessary verification documents.

"My greatest reward in working in human resources was when an employee stops by the office, sends an email or makes a phone call to say thank you and express appreciation for the effort my staff or I made to ensure that they were paid or enrolled in their benefits correctly," said Karen. "I know then that our training, staff selection and customer service focus has been successful."

Prior to DWR, Karen spent 23 years at the California Franchise Tax Board (FTB) as a Tax Program Supervisor and the Division Chairman for the United Way Charitable Campaign. The last nine years at FTB, she was a Personnel Specialist in the Human Resources Office followed by one year at the Department of Alcohol and Drug Programs as a Senior Personnel Specialist before transferring to DWR.

She plans to spend her retirement traveling the world with family and friends. A 10-day Alaskan cruise is already on the books, as well as flying to Ohio to spend time with her three granddaughters.

## Promotion

**Samantha Sierra**  
San Joaquin Field Division  
Administrative Officer I

**Timothy Smith**  
Executive  
Program Manager II

**Chris Tracy**  
Safety of Dams  
Supervising Engineering Geologist

**Eric Tsai**  
Flood Management  
Senior Engineer

**Alice Tung**  
North Central Region Office  
Environmental Scientist

**Michael Van Raalte**  
Southern Region Office  
Water Resources Technician II

**Jennifer Vandyke**  
Operations and Maintenance  
Environmental Scientist

**Donald Walker**  
Operations and Maintenance  
Supervising Engineer

**Robert Wayne**  
Operations and Maintenance  
Staff Information Systems Analyst

**James Wesley**  
Southern Field Division  
Utility Craftsworker Supv.

**Rochelle Wicky Amrhein**  
Flood Management  
Senior Environmental Scientist

**Christopher Williams**  
Delta Field Division  
Utility Craftsworker Supv.

**Kingtin Wong**  
Technology Services  
Systems Software Specialist II

**George Wade Wylie**  
Flood Management  
Senior Engineer

**Jennifer Zuniga**  
Executive  
Staff Services Manager I

## Retirements

**Craig Baillie**  
Technology Services  
Staff Information Systems Analyst

**Carmen Borelli**  
San Luis Field Division  
Water Services Supv.

**William Burkhard**  
Environmental Services  
Senior Engineer

**John Claypool**  
San Joaquin Field Division  
Building Maintenance Worker

**Ruth Delmugnaio**  
Executive  
Executive Assistant

**Laura Delphina**  
Southern Field Division  
Administrative Officer II





**R**ecently retired Associate Safety Engineer **Allen Thompson** was busy getting ready for his life's next phase when his box packing was interrupted to answer a few questions about his 33-year DWR career.

Allen was in the midst of moving from his long-time Frazier Park home in the mountains south of Bakersfield to Oxnard. A long-distance friendship was about to become a lot shorter. Was this move intended to rekindle a relationship?

"I think the kindling is there," he chuckled, "but it has to be her idea."

Allen is wise in other ways, too, especially when the subject is safety. His last day at DWR was July 31st, and just a few days later he was still talking about it.

"Working in confined spaces" was (and probably still is) Allen's area of expertise, and after just a couple minutes of talk you can appreciate just how dangerous such work can be.

"Confined space kills people all the time," he said, "and people who aren't taught or

trained may not realize that when the air starts to go bad, you need to get out."

Allen said DWR has confined workspaces everywhere you look – in dams, pumping plants, along the California aqueduct, everywhere. Special rules apply for confined space work. Welding and grinding require proper respiratory protection and ventilation, because oxygen can be used up quickly in tight spaces.

Allen and other safety officers from different field divisions got together and created a uniform approach to safety instruction. "It gave us a sense of accomplishment to create a consistent safety program throughout the Department," he said.

"Safety has to grow for the culture to change," he said. "It's a living thing."

But Allen readily admits "these last eight or nine years have sometimes driven me to the edge. I'm a mechanic, a hands-on person, and I've worked in industrial mechanics for my entire career.

"I take the Safety Engineer position very

seriously," he continued. "It can be stressful advising and making recommendations to solve safety issues, but I have seen great changes in the acceptance of a good safety program up and down the state."

Allen first got his hands on equipment that needed maintaining while serving as a fireman aboard the USS Kitty Hawk during the Vietnam War era. He later worked at a carpet manufacturing company. In the early 1980s, he joined DWR as a mechanic and spent his entire career in the San Joaquin Field Division.

Allen says he'll be riding his Honda Goldwing touring motorcycle a lot in retirement. A long-held goal is to tour Europe on two wheels.

Then there's that relationship in Oxnard. "My lady friend loves to ride, too," he said, "and there's much more to do down there even if you're doing nothing. The beach is awesome."



Looking back at his 31 year career with DWR's San Joaquin Field Division, the challenge of making sure equipment was in top shape and the sense of a job well done at the end of the day, was what Hydroelectric Plant Electrician **Robert Stewart** enjoyed most about his line of work.

"For the last 15 years of my career as an engineering specialist, I have enjoyed putting projects together and working with the engineering Computer-Aided Design and Drafting (CAD) system," said Robert, who was raised in the San Joaquin Valley.

During his time with the DWR, Robert worked on many jobs and projects including the San Joaquin Field Division Power Circuit Breaker Replacement Project, Septic Replacement Project, the Edmonston Pump Replacement Project

and most recently the Emergency Generator Replacement Project.

"Of all the projects and special assignments I worked on, my most memorable was the pump replacement project at Edmonston Pumping Plant," said Robert. "I enjoyed pulling together the electrical drawings to make them more comprehensible."

Robert specialized in Auto CAD as a drawing system coordinator and was also responsible for administering California Air Resources Board permits for projects.

"What I enjoyed most about my career with the San Joaquin Field Division were the people," said Robert. "They have been my work family. We have had fun through the years, while getting our jobs done. I will miss them all."

Robert plans to spend his retirement working on his "honey do" list, volunteering his time to local organizations and spending time with his children and grandchildren. 💧

## Retirements

### **Gordon Enas**

Engineering  
Principal Engineer

### **Ralph Finch**

Bay-Delta Office  
Senior Engineer

### **Kelly Fish**

Fiscal Services  
Accounting Administrator I

### **William Fraser**

Safety of Dams  
Supervising Engineering Geologist

### **Sherry Holtzclaw**

Business Services Office  
Office Assistant

### **Karen Hull**

Flood Management  
Utility Craftsworker Supt.

### **Michelle Huss**

Operations and Maintenance  
Senior Water and Power Dispatcher

### **Larry Krogstad**

Business Services Office  
Associate Governmental Program Analyst

### **James Lessman**

Safety of Dams  
Senior Engineering Geologist

### **William Morgan**

Delta Field Division  
HEP\* Mechanic II

### **Ronald Mountjoy**

Oroville Field Division  
Health and Safety Officer

### **James Newby**

San Luis Field Division  
Utility Craftsworker Supv.

### **Gail Newton**

FESSRO\*\*\*  
C.E.A.

### **James Rich**

Statewide Integrated Water Management  
Research Program Specialist III

### **Michael Wilkins**

San Joaquin Field Division  
Utility Craftsworker

### **David Wright**

Flood Management  
Senior Engineer

\* Hydroelectric Plant

\*\*\* Floodsafe Environmental Stewardship and Statewide Resources Office



# In Memoriam

**George Donald “Don” Meixner, Jr.**, retired Division of Flood Management Chief and known as the “Flud Man,” passed away at the age of 89 on June 6, 2015.

Don’s more than 41 years of State service began as a lecturer in civil engineering at the University of California, Berkeley. He joined DWR in 1950 and rose to lead the Division of Flood Management from 1983 until his retirement in 1989.

As the leader of DWR’s flood risk management efforts throughout California, Don was a “boots on the ground” engineer who used his university experience and natural leadership qualities to clearly convey his ideas to staff and management, as well as to budget analysts and legislators. An important part of that

“convincing process” was to take the decision-makers on tours of the flood system – showing them how the various features were supposed to work, and where deficiencies needed to be fixed.

Don used those leadership skills to get an amazing amount of work done during his years as Flood Management Chief. One of his many achievements was securing funding to remove more than seven million cubic yards of sediment from flood bypass channels downstream of Tisdale and Colusa weirs, and from the Yolo Bypass downstream of Fremont Weir. Don was instrumental in developing the Butte Basin Plan of Flood Control and in constructing key flood relief structures to ensure diversion of Sacramento River flood water

near Chico into the Butte Basin overflow area.

Don championed technical and leadership training and opportunities for the advancement of employees, regardless of classification or educational background. He also took a strong leadership role in developing DWR’s Employee Career Development Program back in the early 1970s. Don was a mentor to many DWR employees, both during his working years and after retirement, and will be greatly missed.

Don, who earned his Eagle Scout badge and graduated from



Sacramento High School in 1943, was sent by the Navy to the California Institute of Technology where he graduated in 1946 with a degree in Civil Engineering. The

Navy called Don back to active duty during the Korean War. In 1952, he witnessed from the deck of his ship off Eniwetok Island in the South Pacific the test detonation of a hydrogen bomb.

Don is survived by his wife of nearly 30 years, Dixie, son Larry, daughters Sharon and Kathi, stepdaughter Lori and nine grandchildren.

**Harry Kashiwada**, retired Water Resources Technician, passed away on September 1 at the age of 95.

He was born on April 17, 1920 on a passenger ship travelling from Japan to San Francisco. His family farmed in the Sacramento area now known as the Pocket. He graduated from McClatchy High School and attended Sacramento City College prior to World War II. He and his family were sent to the Tule Lake Detention Center during the war.

His DWR career began in 1958 at the Soils and Concrete Laboratories in Bryte. His work was an integral part of the design

and construction of the State Water Project (SWP). He performed tests on soils from the site of essentially every facility of the SWP, from the Upper Feather



River dams and Oroville Dam to Banks Pumping Plant, Edmonston Pumping Plant and Perris Dam. These tests provided the data required to design and build the foundations and embankments for the SWP. He retired in 1984.

Most notably, Harry performed complex tests that measured the behavior of embankments during earthquakes. He helped develop the electronic equipment that simulated earthquake loading on soils. His exceptional

skills were such that he was on loan for a time to the University of California, Berkeley where he assisted professors with similar testing. He also assisted the Caltrans laboratories with their seismic testing. In addition, he tested for the settlement characteristics of the soft peat soils from the Delta and for the subsidence characteristics of soils from the Central Valley.

“I had the opportunity to work with and learn from Harry early in my career as a geotechnical engineer,” said Ralph Torres, retired Deputy Director for the SWP. “His attention to detail and knowledge of soil testing was invaluable to my career. He would say ‘no problem’ when confronted with a difficult technical issue in the laboratory. I consider him one of my mentors.”

Away from work, Harry en-

joyed photography and used a variety of photographic equipment to take photos of family and church events. He also enjoyed traveling and visited many parts of the world.

Harry was preceded in death by wife Kazue in 2004 and is survived by children Stephen (retired Deputy Director for the SWP), Richard and Harriet and grandchildren Stephanie, Jeffrey, Akemi, Kenny and Jaime and great grandchildren Gavin, Nolan, Kaylee, Bradley and Cameron.

Harry started a Kashiwada legacy with DWR. Harry’s son, Stephen, began working for DWR in 1978, retiring in 2005, and is still employed as a Retired Annuitant. Stephen’s daughter-in-law, Christina, began working for DWR in 2008 and is now a Senior Engineer in the Division of Engineering.



**Charles Ferchaud**, retired Northern District, passed away at the age of 84 on July 1, 2015.

As a key member of the 1991 Drought Water Bank team, Charlie's knowledge of crops and hydrology helped assure that the Water Bank purchases added to the overall water supply. According to DWR retiree Linton Brown, one of the final tests of each deal was "What does Charlie say about this?"

"During his 35 years with DWR, Charlie has earned the respect and trust of hundreds of people throughout the State," said Linton. "His opinions, often referred to as 'strongly held, but freely given,' are valued by truth-seekers and

other right-thinking people."

After serving the Navy during the Korean War, Charlie graduated from Cal Poly with a Soils degree. In 1958, he joined DWR's Fall River Mills Field Office until he transferred to the newly created Northern District Office in Red Bluff in 1966.

As a land and water use analyst, he moved 18 times throughout California to

work on land classification and land and water use surveys. He became Chief of the Land and Water Use Section in 1988. He retired in 1993.



A Cancer survivor, Charles participated in Walk for Life events held by the Cancer Society. He also volunteered as a member of the Knights of Columbus for events held by the Sacred Heart Parish. He will be remembered for his welcoming smile.

"We used to say that Charlie could board an elevator with a stranger and emerge with a fine friend when he got off at the 8th Floor," said Linton. "One might say he had a 'knack' for getting to know people, but it was no secret—he simply engaged people—asked about them and took a genuine interest in their responses. No particular trick there—just sincere interest in the other person."

Charlie is survived by daughter Catherine, sons Pete, Daniel, Steve and Greg, nine grandchildren and seven great-grandchildren.

**Matthew Van Vacter**, a Water Resources Technician II with Southern Field Division's Water Operations Section at Devil Canyon Powerplant, passed away at the age of 46 in a tragic accident on his way to work on October 14.

"Matt was a valued member of the Devil Canyon Water Operations team," said Maurice Rubio Jr., Water Resources Engineering Associate

Supervisor at Devil Canyon. "His positive attitude and dedication will be missed. Matt was also a friend to all. He was always available to listen, offer a



kind word and assist in any way possible. His friendship will be missed most of all."

A respected member of Southern Field Division for more than 19 years, Matthew performed surveillance of the California Aqueduct to maintain the integrity and security of the State Water Project. He began his DWR career in 1996 as a Warehouse Worker and later as Material

and Stores Specialist, receiving two Unit Citation Awards for his outstanding work.

"Matthew worked with the Procure-to-Pay team

during the SAP Next Wave Migration Project in 2005-6," said Dave Kearney, Chief of Business Services. "At the time, he supported Southern Field Division's Business Services Section. He impressed many on the team with his knowledge, effort and dedication. Sharp guy! Well-liked."

He became a Junior Engineering Technician in 2008. Matthew's assignments covered the West and East Branches of the State Water Project. For the East Branch, he performed meter readings and monitored the project. At Silverwood Lake, he maintained gauging stations and performed stream measurements. In his most recent assignment as Water Resources Technician, he surveyed the California

Aqueduct from Pearblossom to Lake Perris.

Matthew was highly thought of and well-liked by everyone who came in contact with him. He will be greatly missed.

"Matthew stood over six feet, four inches tall," said Joel Quintero, Water Services Supervisor of the Water Operations Section. "He was a gentle giant with a smile on his face and always with a positive attitude."

In lieu of flowers, a college account for his daughter Drew Van Vacter was created at Desert Community Bank. For more information, contact Letitia McKinney of Southern Field Division at **Letitia.McKinney@water.ca.gov**.

Matthew is survived by a daughter and two step-sons.





**Glenn Sawyer**, who was best known for his technical contributions and management of DWR's Land and Water Use Section, passed away at the age of 86 on August 1, 2015.

Born and raised in Folsom, California, Glenn graduated from San Juan High School before graduating from Sacramento Junior College and the University of California, Berkeley. After earning his diploma, Glenn began working as a Land and Water Use Analyst for the Division of Planning.

Co-workers knew Glenn for his role in preparing multiple bulletins for the California Water Plan, working as the representative for DWR on the "Mission to Earth" NASA project and expertise in agricultural and urban water uses in California.

"Glenn was one of the Water Gods at the State of California, Department of Water

Resources," said Alan Aguilar, retired Senior Environmental Scientist for the North Central Region Office.

As Chief of the Land and Water Use Section in the Division of Planning, Glenn was responsible for the development and management of agricultural and urban land and water use data collection programs which provided critical information to the California Water Plan publications of the 1970s and 1980s. He received numerous accolades throughout his career, including the Management Excellence Award and Director's Award.

David Inouye, a DWR Environment Program Manager said, "I worked with Glenn at DWR and would always look to him for leadership and guidance on the many projects we worked on together."

After working with the Division of Planning for 35 years, Glenn retired in the fall of 1989.

Glenn is survived by his wife Dorothy, son Mark, daughter Kerry and grandson Ethan.

**John Silveira**, retired State Water Project Deputy Director, passed away at the age of 84 on April 11, 2015 in Sacramento.

John worked on design studies leading to the 1960 passage of the Burns-Porter Act that authorized \$1.75 billion for construction of the State Water Project (SWP).

John joined DWR in 1959 after working three years for the Division of Highways on several interchange projects. As part of the team of DWR employees that helped create the SWP, John worked on the final plans and specifications for several SWP facilities from Oroville to Bakersfield, including the South Bay and Coastal Branch aqueducts.

As Senior Engineer and Executive Vice President of Development and Resources Corp. until 1980, John worked on projects through-

out the world, including South and Central America, Australia, Asia, the Middle East and Africa. Projects included power generation and transmission facilities and dams.

After returning to DWR in 1987 as Chief of the Division of Planning's SWP Planning Branch, John went on to serve as Deputy Director until his retirement in 1996. An active member and former president of DWR's Alumni Club, he will be greatly missed.

A native of Ceres, John served four years in the Navy before graduating from San Jose State in 1959 with a Bachelor of Science degree in Civil

Engineering.

John is survived by his wife, Patricia, sons John and William and daughter Joan. In lieu of flowers or donations, the family asks that you perform a random act of kindness in John's memory.



## Memoriams:

**Gabriel Gillotti**

**Richard Goodnight**

**Don Mitchell**

**James Phillips**

**Charles "Chuck" Rasmussen**

**Guadalupe Vargas**

**Robert Williams**

**Design and Construction**

**Flood Management**

**Operations and Maintenance**

**Operations and Maintenance**

**Flood Management**

**Operations and Maintenance**

**Planning**

**June 4, 2015**

**September 29, 2015**

**July 10, 2015**

**October 6, 2015**

**June 9, 2015**

**August 21, 2015**

**September 12, 2015**



# A Day of Service



## Technology Services Team Volunteers on Project for Homeless

**Take 13 DWR employees**, add some hammers, gloves, soil mix, wood, rocks, nails, plants and what do you get? A homeless shelter in Sacramento's Oak Park enhanced with a water efficient landscape, covered sandbox, a granite walk area and a giant outside chalkboard.

On Friday, October 9, Division of Technology Services and SAP employees (photo above) beautified the shelter's Serenity Garden by leveling dirt and spreading granite, building a covered sandbox, making and installing an outdoor chalkboard with shade structure and covering a boxed area with 15 bags of wood chips and drought-tolerant plants.

DWR's team included Pam Ceccarelli, Tina Nycum, Troy Phillips, Michelle King-Byrd, Ian Brown, Maricella Flores, Ward Shigaki, Karen Cole-Ainley, Donna Tajii, Gerri Higgs, Monica Dahlberg, Manjul Mehrotra and Stephanie Pettitt.

The shelter sponsored by Next Move (formerly the Sacramento Area Emergency Housing Center) and Goodwill provides short-term housing and employment opportunities for the homeless. 💧


To view the volunteers at work, visit <https://youtu.be/FaDS6aGCYvUI>



# DWR Mission Statement

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To manage the water resources of California in cooperation with other agencies, to benefit the State's people and to protect, restore and enhance the natural and human environments.

A full-page photograph of a worker, Dave Mathews, in a blue shirt, yellow safety vest, and white hard hat. He is wearing safety glasses and black gloves. He is working on a large, white, industrial valve. Several heavy metal chains are attached to the valve and are being held by another person's hand in the foreground. The background shows industrial structures and pipes.

Dave Mathews, a Hydroelectric Plant Mechanic at Oroville Field Division, prepares to replace one of two refurbished fixed cone valves at Hyatt Powerplant inside diversion tunnel #2 last year. The installation of the reconditioned fixed cone valves and control systems was critically needed to provide operational flexibility and capability necessary during the extreme drought conditions DWR has experienced at Lake Oroville since late 2012.